INTUG

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www.INTUG.net

What do corporate customers want?

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INTUG contents

- INTUG
- mobility
- leased lines & broadband
- IP-Virtual Private Networks
- conclusions

INTUG **what is INTUG?**

- members:
  - national associations
  - corporations
  - individuals
- activities:
  - ITU and WTO
  - OECD
  - APEC TEL, CITEL and EU

INTUG our aims

- real and effective competition
- genuine choice for users
- lower prices
- higher quality
- more innovative services
- constructive co-operation with:
  - international bodies
  - governments
  - regulators

INTUG priorities

1. open access to global mobile networks
2. regulatory best practice
3. liberalization
4. leased lines
5. IP telephony
6. digital divide
7. universal access
8. numbering

INTUG corporate issues

- global services;
  rather than national & regional footprints
- competition:
  - prices
- Service Level Agreements (SLAs)
- IP networks (voice and data integration)
- mobility
- enduring inaccuracy of bills
- outsourcing of ICTs, telecommunications, and call centres

INTUG business adoption

- needs to deliver to the Chief Information Officer (CIO)
- lower costs
- better service
- Return on Investment (RoI)
- strategic advantage

Business also has a role as a content provider and advertiser, with a choice of many channels to their customers.

INTUG suppliers to business

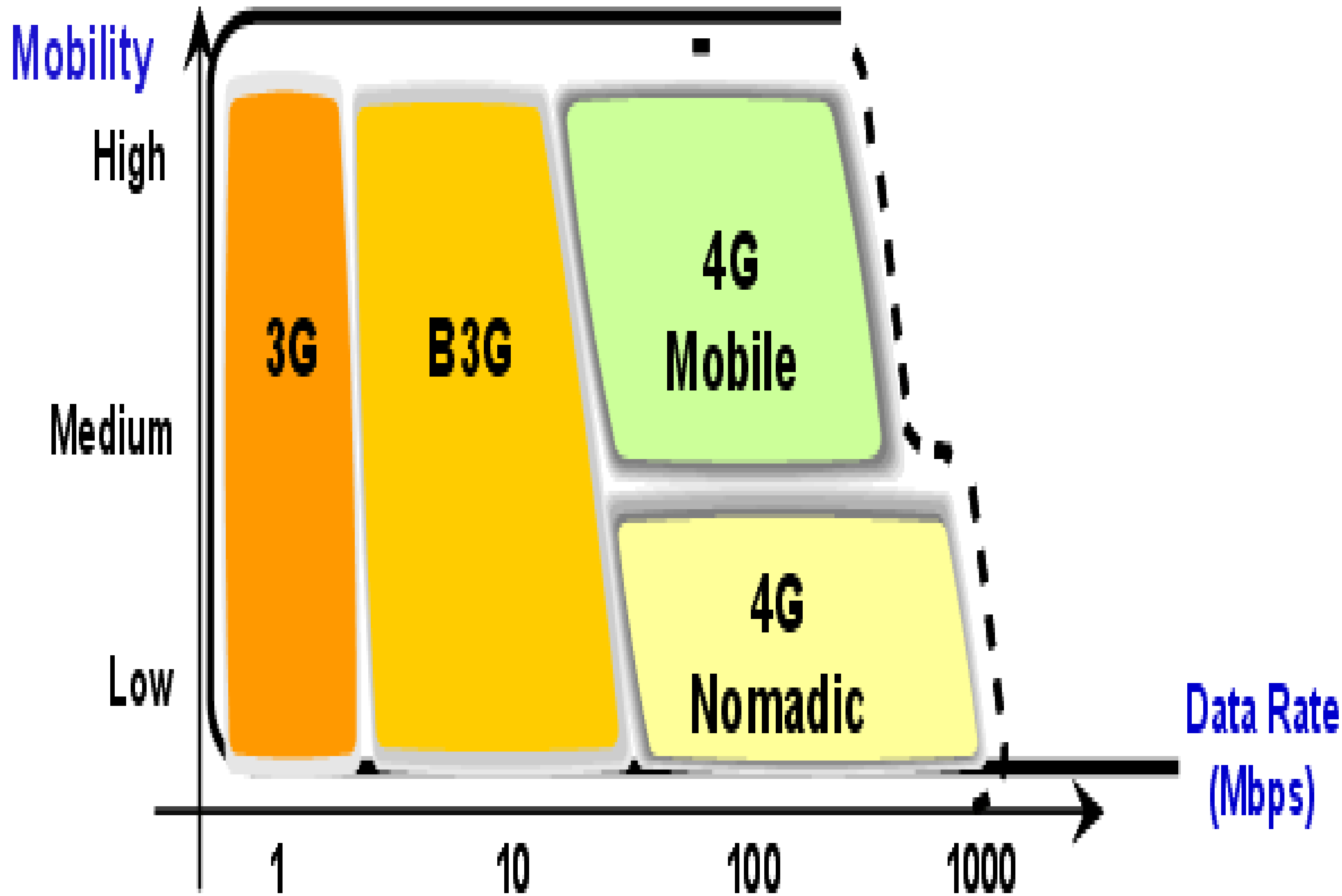
- fixed network operators:
  - weaker away from major countries & big cities
  - poorly integrated with mobile
- mobile operators are:
  - too fragmented geographically
  - too expensive
  - too obviously uncaring
    (too focused on consumers)
  - too technologically focused, yet also too risky

Whatever happened to fixed mobile convergence?

INTUG mobile market

- very different on each continent
- global growth is largely in Asia
- Europe is characterised by:
  - stable ARPU, customer churn and replacement handsets
  - painfully slow transition to 3G
- North America
  - large “buckets of minutes”
  - flat rate data prices
- MNOs are trying to get revenue sharing deals for consumer content
- wholesaling is still an anathema
- acquisitions are partially resumed

INTUG Samsung view of the future



INTUG other networks

- office and campus Wi-Fi
- public hot spots
- residential Wi-Fi
  - e.g, Intel Viiv
- automobile networks:
  - GPS
  - satellite radio
- Personal Area Networks (PANs)
  - e.g., Motorola-Oakley Razrwire

INTUG but what is the value of?

- wireless
- mobile
- cellular
- broadcast
- nomadic
- ubiquitous

Mobile operators do not know what their value proposition is.

INTUG marketing failures

- HSCSD - nobody has heard of this
- WAP - killed by an over-dose of hype
- GPRS
  - very few business users
  - prices were out by an order of magnitude
  - prices are taking years to decline
- 3G - business users are still trialists
- HSDPA - already lots of hype

INTUG mobile market problems

- International Mobile Roaming (IMR)
- Fixed-to-Mobile call termination (F2M)
- Mobile Number Portability (MNP)
- Short Message Service (SMS)
- national mobile roaming
- simple handsets, bought separately
- wholesaling continues to be ignored

Operators 3D strategy: deny, delay, degrade

INTUG results of market abuses

- very much higher charges to users
- lower levels of use
- users are unable to benefit from:
  - service innovation
  - technical innovation
- no progress on fixed-mobile convergence
- very limited use of cellular data services
- lack of trust in mobile network operators by:
  - users
  - fixed operators

INTUG France - call origination

- two dominant players
- followed Ireland in analysis of mobile call origination market
- operators realised regulation would work, so they made MVNO deals:
  - NRJ, a pop music FM radio station
  - Breizh Mobile in Bretagne
  - Coriolis Telecom for business users
- competition authority investigating collusion from 1997 to 2003

INTUG freephone

- well-developed channel to customers on fixed networks
- but rejected by MNOs:
  – afraid of bypass to international operators
  – seen as an opportunity to “share” revenue
- must use their separate numbers

Operators are taking very large profits on bulk SMS (low priority traffic in the signalling channel).

INTUG fixed-to-mobile

- domestic abuse extended abroad
- long and unpleasant disputes
- cost orientation is no more than €0.05/minute
- MNOs assert they will have to raise origination prices and cut handset subsidies
- smaller operators claim they will be driven out of business
- Germany claims its consumers respond to termination prices
- remains the major obstacle to convergence

INTUG the value of roaming

- once exciting and highly praised
- now expected and taken for granted
- Wi-Fi hot spots are popular for data
- the cash cow will not last for ever
- multi-mode handsets appearing extending roaming beyond GSM

“limited” mobility is challenging GSM in many markets

INTUG roaming market analyses

- wholesale not retail market
- easy to show it is not competitive
- generally no MNO is dominant
- therefore, use joint dominance
- possible remedies would be:
  - benchmarking
  - linking to other prices
  - mandating market entry
  - cost orientation
- obstacles:
  - few remaining new entrants
  - none of whom trust the mobile operators

INTUG Australia

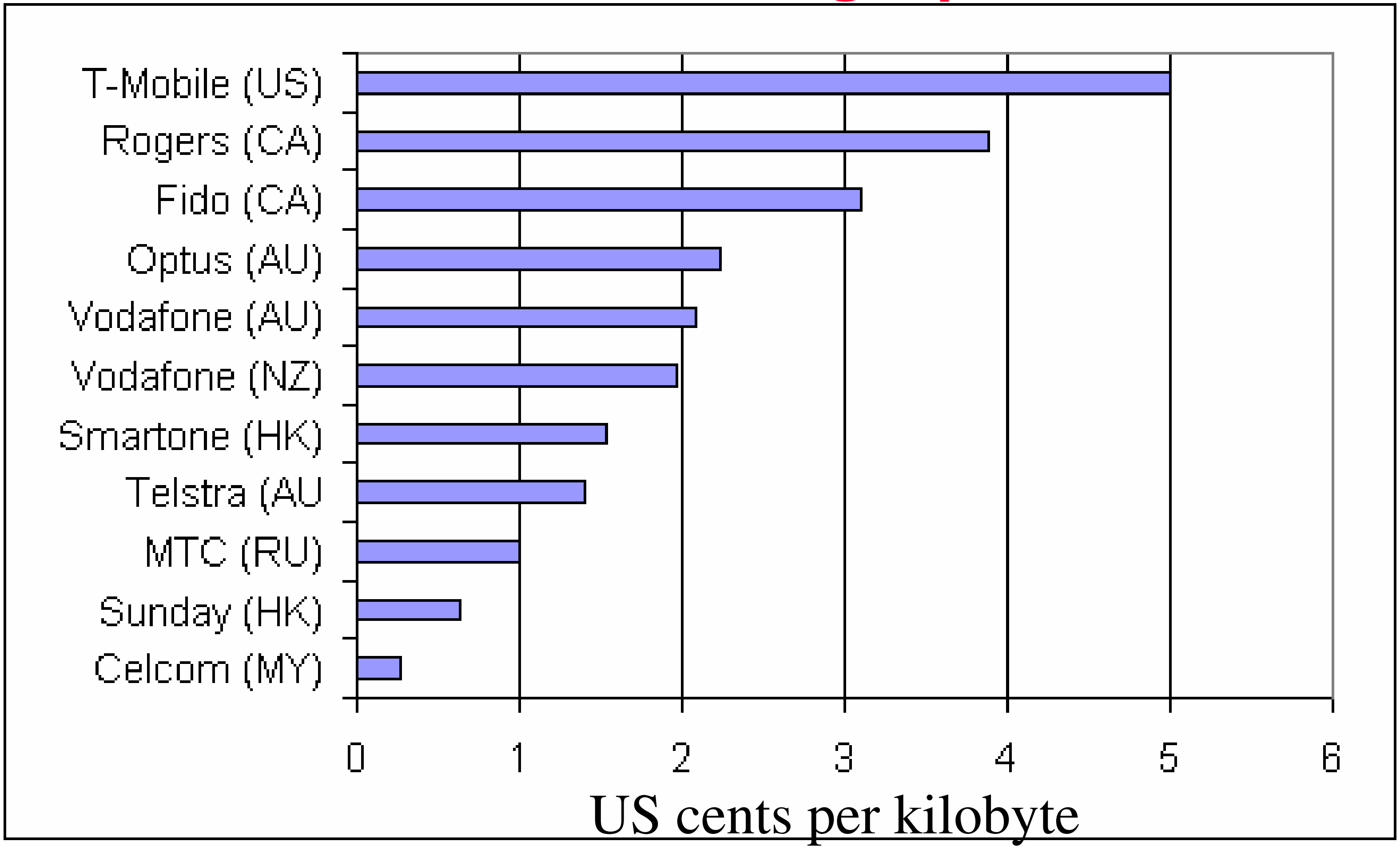
- "While the Commission has not directly estimated the cost of providing international roaming services, observations of retail pricing structures raise suspicions that the prices paid by consumers for international roaming services may substantially exceed the underlying cost of providing these services."
- "The Commission notes that, as international roaming services are increasingly taken up and worldwide demand increases, there may be greater and continuing focus by regulators and consumer groups on the practices of mobile network operators andindustry bodies like the GSM Association in the future."

http://www.accc.gov.au/content/item.phtml?itemId=708242&nodeId=file4327b7302587f&fn=Final%20report%E2%80%94international%20inter-carrier%20roaming%20service%20(September%202005).pdf

INTUG GPRS

- ISDN for mobile phones
- used in trials and for “Blackberries”
- large companies saw domestic prices as excessive
- roaming prices were higher still
- painfully slow price reductions
- very little evidence of revenues for the operators

INTUG roamers in Singapore



http://www.intug.net/submissions/INTUG_APECTEL_30.html

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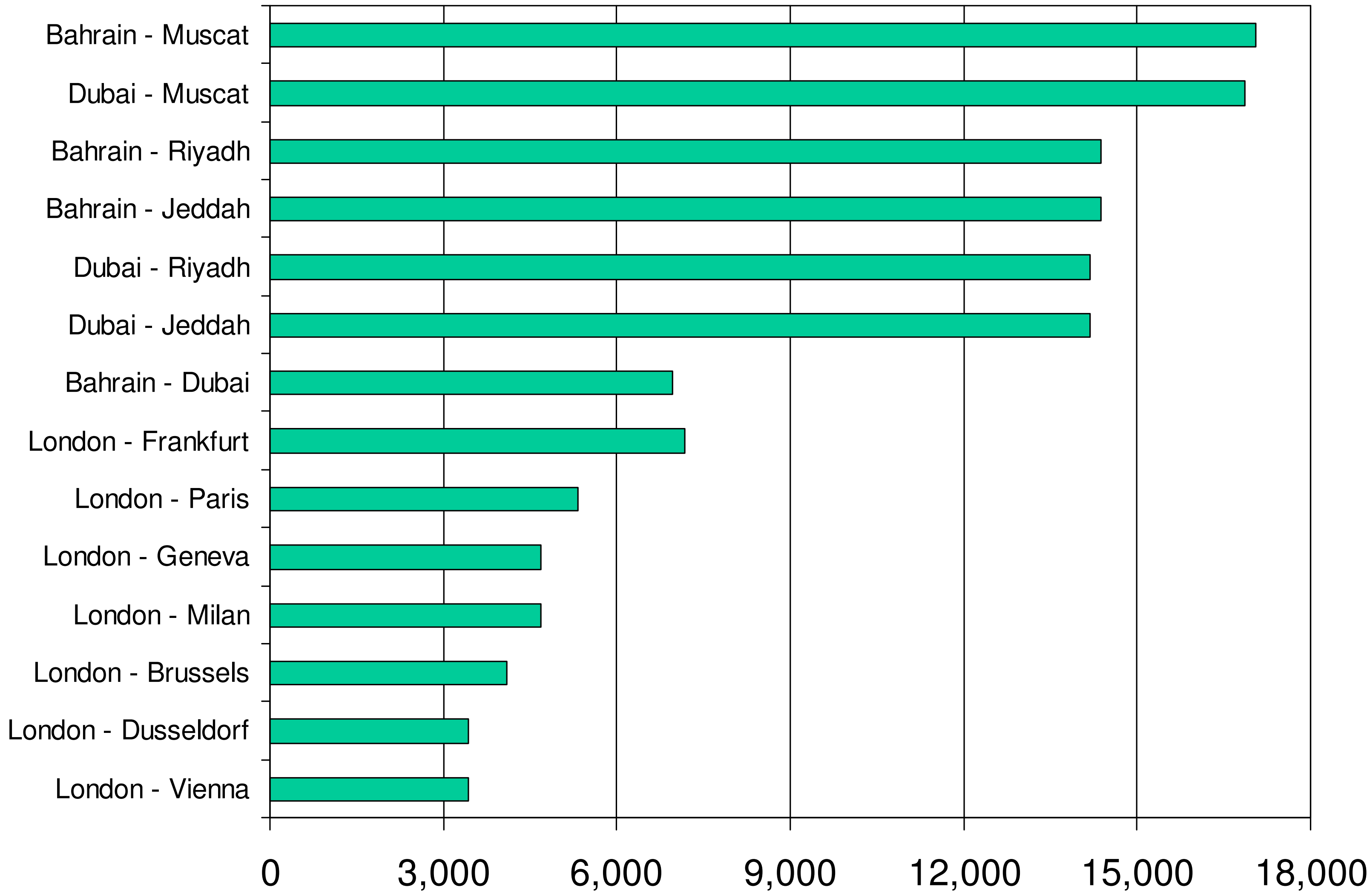
INTUG leased lines

- work item since 1974
- raised by INTUG at CCITT in 1979
- pressed European Commission to act
- remains a problem in terms of:
  - availability
  - discrimination against new entrants
  - excessive pricing
- essential to see the data
  - inexplicable variations
  - to see if they are (not) cost-oriented

INTUG international leased lines (2002)



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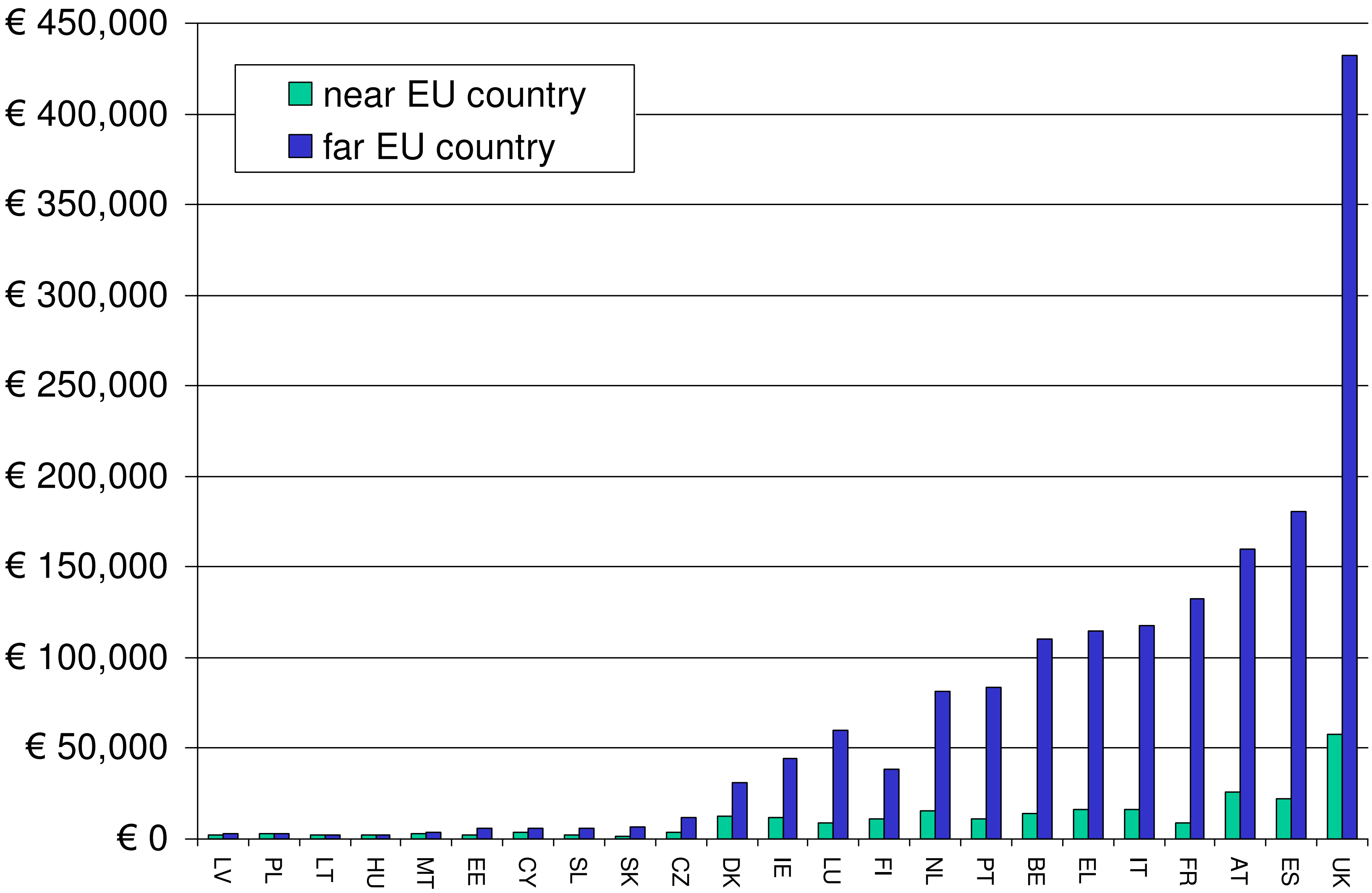
INTUG European Commission

- annual implementation reports
- annual leased lines report:
  - delivery period
  - service availability
  - repairs
- data gathered by national regulatory authorities
- compiled by EC

INTUG 2 Mbps half-circuit



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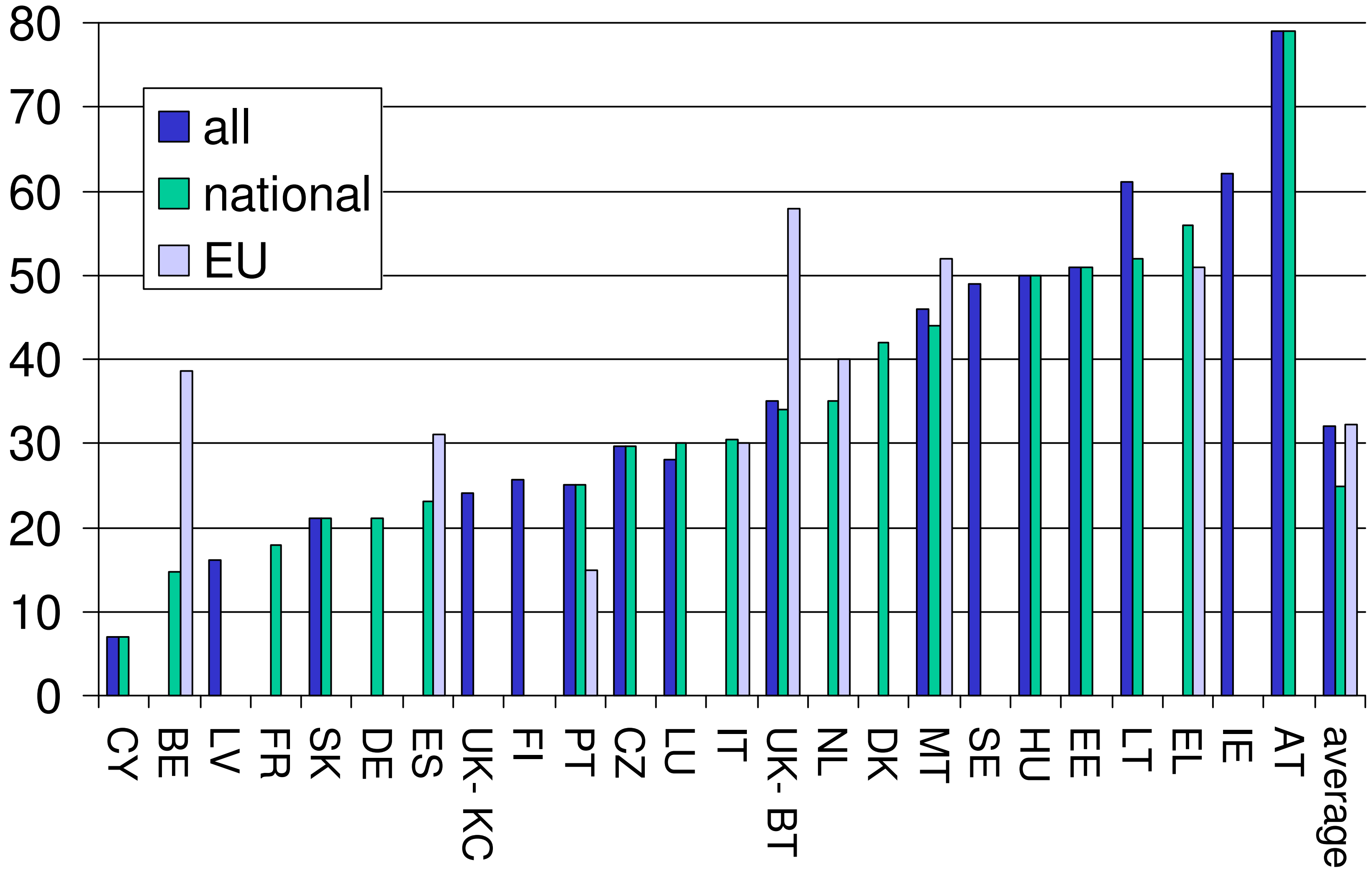
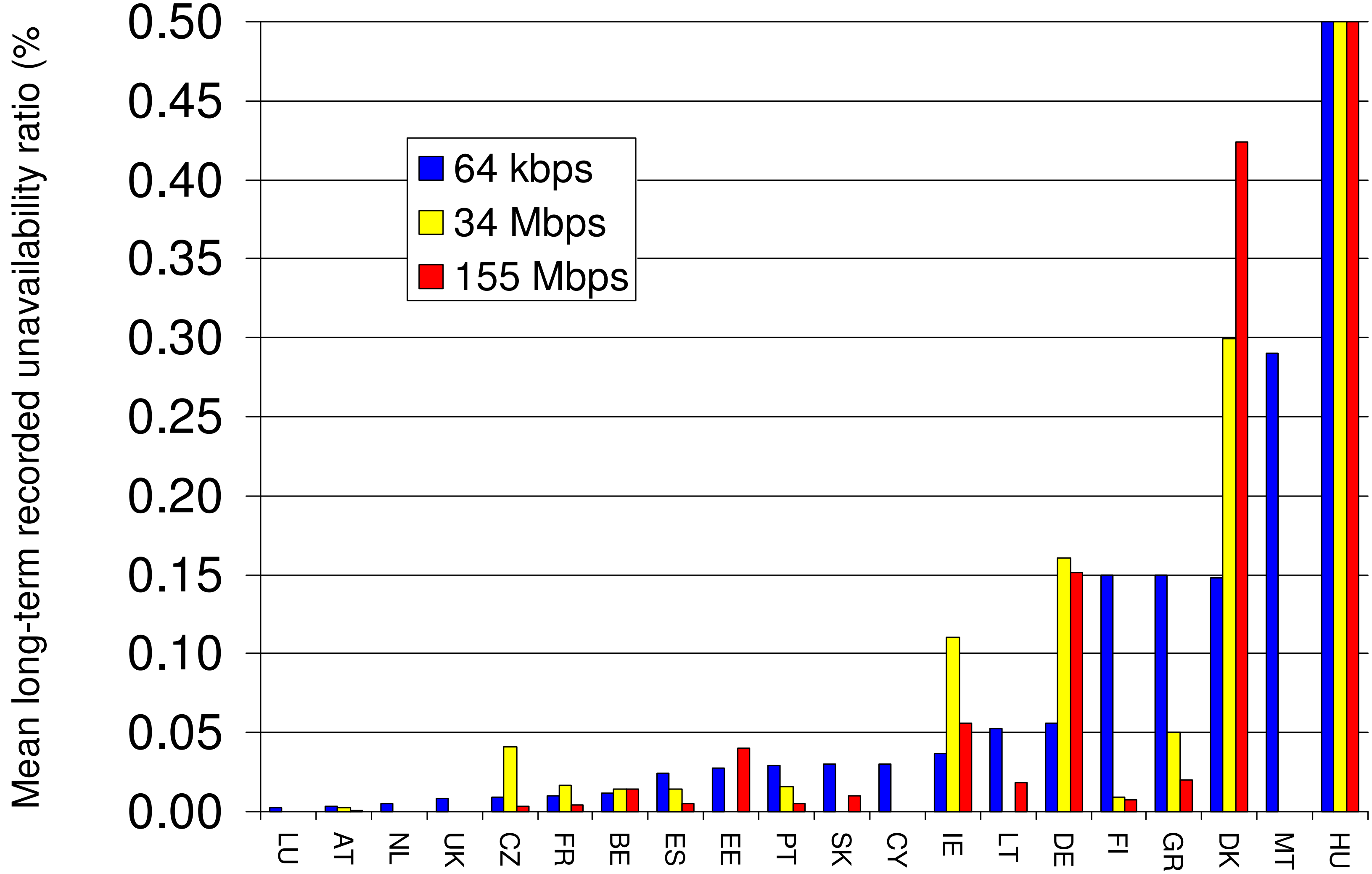
INTUG delivery period 64kbps (days)



INTUG service availability



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INTUG IP-VPNs

- rapid global deployment:
  - not just G7 or OECD
- IP-PBX sales overtaken traditional
- major uncertainties with national regulations:
  - often written years ago
  - do not refer to IP or modern capabilities
- problems with use of IPSec:
  - some technologies forbidden
  - some technologies requires

INTUG mobility for employees

- access to the full functionality of the VPN:
  - originating calls
  - terminating calls
  - conference calls
  - web-assisted calls
  - video conferencing
- away from business premises using:
  - dial-up over PSTN or ISDN
  - broadband Internet access (xDSL, FTTH, Wi-Fi and WiMAX)
  - cellular telephony (GSM, cdma2000, 3G)
- also to allow access for visitors from other countries, including foreign nationals

INTUG regulatory issues

- Do you permit Virtual Private Networks? If so, do you require a licence?
- Within your country do you permit VPN services to be provided over
  - voice circuits
  - data circuits
- On international routes, do you permit VPN services to be provided over
  - voice circuits
  - data circuits
- Do you permit users access to Virtual Private Network services using the:
  - Public Switched Telephone Network (including dial-up and ISDN)
  - public Internet (including dial-up, broadband, public access centres and Wi-Fi hot spots)
- Do you permit traffic from a Virtual Private Network to "break out" to the:
  - Public Switched Telephone Network
  - Internet
- Do you permit the use of IP Sec?

INTUG quality of service

- an essential part of all contracts
- very different attitudes amongst operators
- some good performers
- some very bad performers
  - ignore the issue
  - issue unrealistic contracts

INTUG broadband

- major area of revenue growth
- geographic centre in East China Sea
- still at early stages of evolution
- strong consumer focus
- very little interest in SMEs
- few SLAs available for corporates

INTUG broadband for homeworkers

- no single operator can supply this
- country by country or region by region
- different technologies, speeds and help-desks
- requires a third party
- lowest common denominator is 512k downstream and 64k upstream

INTUG conclusions

- need much more competition
- regulation trails technological developments
- service developments are constrained by:
  - absence or attenuation of competition (especially geography)
- politico-regulatory pressure from incumbents to end access regulations
- confusion about the value to users of:
  - mobile versus nomadic
  - mobile versus fixed

INTUG issues

- in an increasingly consumer driven market what does the business user do?
- can third parties get wholesale services to tailor business services?
- how should business communicate with its consumers as they adopt new technologies?

INTUG thank you

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